



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,112	06/20/2003	Stephan Karl Barsun	200209739-1	7760

7590 08/17/2004

HEWLETT-PACKARD DEVELOPMENT COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

DUONG, THO V

ART UNIT	PAPER NUMBER
----------	--------------

3743

DATE MAILED: 08/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/600,112

Applicant(s)

BARSUN ET AL.

Examiner

Tho v Duong

Art Unit

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,8-14 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) 12,17 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,8-11,13,14,16 and 18-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of species of figure 5 in the reply filed on 7/26/2004 is acknowledged. Applicant indicates that claims 1-5,8-14 and 16-20 drawn to the elected species of figure 4. The examiner disagrees on claims 12,17 and 20 to be drawn to the elected species since the subject matter of each flow stream of the plurality is oriented at an acute angle to each other the flow streams of the plurality is not directed to the elected species of figure 4, which show the angle is orthogonal but not acute. Therefore, claims 12, 17 and 20 has been withdrawn from further consideration.

Specification

The disclosure is objected to because of the following informalities: In the brief description of the drawings, i appears on lines 7, 11 and 15 that "angel" is a typographical error of "angle".

Appropriate correction is required.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the claimed subject matter of "wherein said fins are oriented in an aspect substantially 135 degree angle from each said flow stream" is not disclosed in the specification.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 5 and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claimed subject matter of "substantially 135 degree angle" is not positively disclosed in the disclosure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

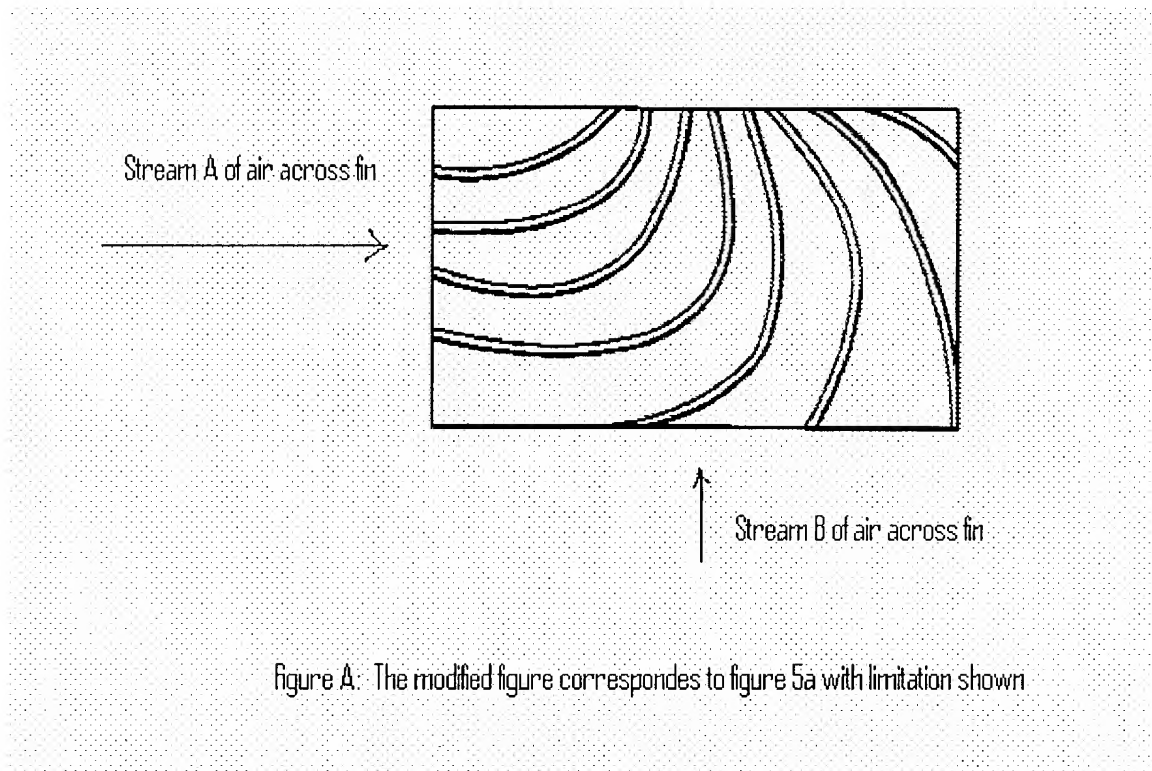
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5,8-11,13,14,16 and 18-19 are rejected under 35 U.S.C. 103(a) as obvious over Suntio (US 6,313,399). Suntio discloses (figure 3-5 and figure A as follow) a device for removing heat from an electronic component (100), comprising a heat sink (400) adapted to couple to the electronic component and conduct heat therefrom; a plurality of curved fins (401) being integral part of the heat sink to transfer heat into a cooling air, wherein the fins (401) are

Art Unit: 3743

oriented at an angle with respect to a plurality of flow streams of cooling across the fins and wherein each flow stream of the plurality follows a unique direction in channels (402) in a gradual change of direction. Suntio further discloses (column 2, lines 51-56) that the wide gap at the lower edge and/or side of the heat sink suck lot of air into the device. Since the lower edge and the side edge are orthogonal to each other, it would have been obvious to one of having ordinary skill in the art to see that the flow streams approaching each edge is substantially orthogonal to each other. As illustrated in figure A, the fluid streams (A) and (B) are oriented substantially orthogonal to each other. Suntio does not disclose that the fins are oriented in aspect substantially 135 degrees from each flow stream. However, applicant has not disclosed that having the fins extend at this specific angle with the fluid stream across the fin, solves any stated problem or is for any particular purpose or any criticality of having the claimed angle, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the angle as 135 degrees, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). Moreover, it appears that the device would perform equally well with the angle as shown by the Suntio. Accordingly, the use of a 135 degrees angle is deemed to be a design consideration, which fails to patentably distinguish over the prior art of Suntio.

Art Unit: 3743



Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hatada et al. (US 5,195,576) discloses a heat sink that has air approaching the heat sink orthogonally.

La Violette et al. (US 5,513,071) discloses electronics housing with improved heat rejection.

Lin (US 6,418,020) discloses a heat dissipation device with ribbed fin plates.

Art Unit: 3743

Minakami et al. (US 5,381,859) discloses a heat sink having air approaching from two sides.

Harvey L. Berger (US 3,592,260) discloses a heat exchanger with inner guide strip.

Hopper (Des. 379,088) discloses a CATV housing with heat sink fins.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tho Duong whose telephone number is (703) 305-0768. The examiner can normally be reached on from 9:30-6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet, can be reached on (703) 308-0101. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.



TD

August 10, 2004



Tho Duong

Patent Examiner.